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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MING C. HAO, UMESHWAR DAYAL,
PETER J. WRIGHT, and JERRY SHAN

Appeal 2009-000575
Application 10/774,315
Technology Center 2600

Decided: July 13, 2009

Before JOSEPH F. RUGGIERO, MAHSHID D. SAADAT,
and KARL D. EASTHOM, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Final Rejection of claims 1-20, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

We reverse.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief (filed May 18, 2007), the Answer (mailed July 24, 2007), and the Reply Brief (filed September 24, 2007) for the respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived (*see* 37 C.F.R. § 41.37(c)(1)(vii) (2008)).

Appellants' Invention

Appellants' invention relates to a data presentation system and method which utilizes drilldown event sequences input by a user to derive a multi-level dynamic hierarchical structure that automatically performs comparisons with data at a previous level. The deriving of the multi-level dynamic hierarchical structure includes deriving a multi-pixel bar chart that displays numerical values of aggregated data for plural bars. (*See generally* Spec. ¶¶ [0015]-[0017]).

Claim 1 is illustrative of the invention and reads as follows:

1. A method for presenting data, comprising:

receiving the data; and

deriving a multi-level dynamic hierarchical structure for the data based on drilldown sequences input from a user, wherein the drilldown sequences automatically compute a graphical visual comparison of the data and comprise:

deriving a multi-pixel bar chart that simultaneously displays numerical values of aggregated data for plural bars; and

deriving a graphical illustration that displays a comparison of the numerical values of aggregated data.

The Examiner's Rejections

The Examiner relies on the following prior art references to show unpatentability:

Friedman US 5,893,090 Apr. 6, 1999

Daniel A. Keim (hereinafter "Keim"), "Hierarchical Pixel Bar Charts," IEEE Trans. On Visualization and Computer Graphics, Vol. 8, No. 3, 255-62, July-September 2002

Claims 1, 3, 6-18, and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Keim.

Claims 2, 4, 5, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Keim in view of Friedman.

ISSUES

(i) *Under 35 U.S.C § 102(b), does Keim have a disclosure which anticipates the invention set forth in claims 1, 3, 6-18, and 20?*

The pivotal issues before us are whether Appellants have demonstrated that the Examiner erred in finding:

(a) that the numbers at the tops of the pixel bars in the bar chart illustrations in Figures 12 and 16 of Keim

correspond to "numerical values of aggregated data…" as claimed, and

(b) that Keim's pixel bar chart illustrations in Figures 12 and 16 provide a display of a comparison of the claimed numerical values of aggregated data.

(ii) Under 35 U.S.C § 103(a), with respect to appealed dependent claims 2, 4, 5, and 19, would one of ordinary skill in the art at the time of the invention have found it obvious to combine Keim with Friedman to render the claimed invention unpatentable?

FINDINGS OF FACT

The record supports the following findings of fact (FF) relevant to the issues before us by a preponderance of the evidence:

1. Keim discloses (page 257, section 3.1) that the basic idea of a pixel bar chart is to present data values directly by representing each data item, e.g., a customer, by a single pixel of a bar chart. According to Keim, the one-to-one correspondence between data items, such as customers, permits the use of bar properties such as color to represent additional customer attributes, e.g., sales amount and quantity.

2. Keim further discloses (Figs. 7 and 8; page 258, section 3.3) the use of hierarchical pixel bar charts which allow a user to expand the bars of a pixel bar chart and have the corresponding data partitioned according to a next level of hierarchy. A user may interactively "drill-down" the various levels of the bar chart hierarchy to see further details of subsets of the data.

3. Keim also discloses (pages 263-264, section 5.2, items 1, 4, and 5) interactive selection techniques including thresholding and the use of

average/median lines which separate bars into upper and lower parts to show aggregated values.

4. An example of the use of average/median lines is illustrated in Figure 12 of Keim which depicts a series of equal height bars with numbers arranged along the horizontal axis at the top of the pixel bars that provide an identification of the day of the month. (Keim, page 265, Fig. 12, "D_x = day").

5. Keim also discloses (Fig. 16; page 266,section 6.2) the tracking of sales transactions for different time periods during a day with numbers at the top of the pixel bars identifying the various time periods, in this case, hours.

PRINCIPLES OF LAW

1. ANTICIPATION

It is axiomatic that anticipation of a claim under § 102 can be found if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.,* 730 F.2d 1452, 1458 (Fed. Cir. 1984).

In rejecting claims under 35 U.S.C. § 102, "[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation." *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005), citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992). "Anticipation of a patent claim requires a

finding that the claim at issue 'reads on' a prior art reference." *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346 (Fed Cir. 1999) ("In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.") (internal citations omitted).

2. OBVIOUSNESS

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). "[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore,

> "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness". . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

Appellants' arguments in response to the Examiner's anticipation rejection, based on Keim, of independent claims 1, 10, and 16 assert that the Examiner has not shown how each of the claimed features is present in the disclosure of Keim so as to establish a prima facie case of anticipation. Appellants' arguments (App. Br. 6-9; Reply Br. 2-5) initially focus on the contention that, in contrast to the requirements of each of the rejected independent claims 1, 10, and 16, Keim does not disclose the drilldown through a hierarchical structure to derive a pixel bar chart that "displays numerical values of aggregated data" for plural bars.

We agree with Appellants. While Keim undisputedly discloses (FFs 2 and 3) the expansion, i.e., drilldown, of pixel bar charts to provide a bar chart representation of aggregated data, we find no disclosure in Keim that could reasonably be interpreted as disclosing the display of numerical values of the aggregated data as required by the rejected independent claims.

In addressing the language of the appealed claims, the Examiner directs particular attention (Ans. 21) to Figure 12 of Keim which is an illustration of a bar chart that uses average/median lines to show aggregated values. While Keim's Figure 12 does show numbers at the top of the pixel bars, it is apparent from the disclosure of Keim, as also argued by Appellants (App. Br. 7; Reply Br. 4), that these numbers merely indicate the days of the week (day 7, day 8, etc.), not aggregated data.

The Examiner, at page 21 of the Answer, has expanded upon the line of reasoning relied upon in the statement of the grounds of rejection (Ans. 4-5) in support of the contention that Keim discloses the display of numerical values of aggregated data. According to the Examiner (*id.*), the numerical

values, such as 7, 8, etc. at the top of the pixel bars in Figure 12 of Keim, reflect an aggregated data value for the respective pixel bar since, in the Examiner's analysis, the average value for the day records of the pixels is 7 for the first bar, 8 for the second bar, etc.

We simply find no basis in the disclosure of Keim to support the Examiner's position. To the contrary, Keim's description (FF 4) of the Figure 12 illustration indicates that the numbers arranged along the horizontal axis at the top of the pixel bars provide nothing more than an identification of the day of the month that corresponds to the particular pixel bar, not a numerical value of the aggregated data represented by a particular pixel bar. While it is possible that a numerical value of aggregated data may be developed or derived from a pixel bar chart representation such as that in Figure 12 of Keim, we find no disclosure in Keim of the actual display of numerical values of aggregated data as claimed so as to support a case of anticipation.

We further agree with Appellants (App. Br. 7; Reply Br. 4) that, in addition to Keim's failure to disclose pixel bar charts with a display of numerical values of aggregated data, Keim also does not disclose a graphical illustration that displays a comparison of "the numerical values of the aggregated data," i.e., from the previously derived pixel bar chart as claimed. In addressing the claimed feature, the Examiner again points to Keim's Figure 12 and makes additional reference to Figure 16 of Keim. As described by Keim (FF 5), Figure 16 describes the tracking of the amount of sales transactions occurring in different time periods throughout a day. As with Figure 12 of Keim, however, the numbers at the top of the pixel bars in Keim's Figure 16 are not numerical values of the aggregated data in the

pixel bars but, rather, are merely an indication of time periods, in this case, the different hours of the day.

Further, aside from the fact that Keim's Figure 16 description has no disclosure of numerical values of aggregated data, there is also no comparison with previously derived numerical values of aggregated data. As argued by Appellants (App. Br. 7; Reply Br. 4-5), while the Examiner refers to both Figures 12 and 16 of Keim, there is no indication in Keim that either bar chart representation is derived from the other so as to provide a comparison of "the numerical values of aggregated data" as claimed.

In view of the above discussion, since all of the claim limitations are not present in the disclosure of Keim, we do not sustain the Examiner's 35 U.S.C. § 102(b) rejection of appealed independent claims 1, 10, and 16, nor of claims 3, 6-9, 11-15, 17, 18, and 20 dependent thereon.

35 U.S.C. § 103(a) REJECTION

We also do not sustain the Examiner's obviousness rejection of dependent claims 2, 4, 5, and 19 based on the combination of Keim and Friedman. The Examiner has applied the Friedman reference to Keim to address the product sales and standard deviation features of dependent claims 2, 4, 5, and 19. We find nothing in the disclosure of any of Friedman, however, which overcomes the innate deficiencies of Keim discussed *supra*.

CONCLUSION

Based on the findings of facts and analysis above, we conclude that Appellants have shown that the Examiner erred in rejecting claims 1, 3, 6-

18, and 20 for anticipation under 35 U.S.C. § 102(b), and in rejecting claims 2, 4, 5, and 19 for obviousness under 35 U.S.C. § 103(a).

DECISION

The Examiner's decision rejecting claims 1, 3, 6-18, and 20 under 35 U.S.C. § 102(b) and claims 2, 4, 5, and 19 under 35 U.S.C. § 103(a) is reversed.

REVERSED

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